

Application No.: 10/817089  
Docket No.: CL2127USNA

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**Amendments to Claims**

**Claim 1 (Currently Amended).** A method to determine the molecular electrical conductivity of a compound, comprising the steps of:

- a) providing a compound which forms self-assembled monolayers;
- b) forming a self-assembled monolayer of the compound on a substrate; and
- c) measuring the difference between the surface potential of the substrate and the surface potential of the self-assembled monolayer comprising the step of using surface scanning potential mapping, whereby the molecular electrical conductivity of the compound is determined.

**Claim 2 (Original).** The method of Claim 1 wherein the substrate is metallic.

**Claim 3 (Original).** The method of Claim 1 wherein the substrate is selected from the group consisting of Au, Ag, Pd, Pt, Cu, Al and Ni.

**Claim 4 (Original).** A method to determine the relative molecular electrical conductivities of a plurality of compounds, comprising the steps of:

- a) providing a plurality of compounds which form self-assembled monolayers;
- b) forming a discrete area of a self-assembled monolayer for each compound of (a) on a single substrate;
- c) measuring the surface potential of each discrete area comprising the step of using surface scanning potential mapping for each self-assembled monolayer; and
- d) comparing the measured surface potentials of (c) to determine the relative molecular electrical conductivities of the plurality of compounds.

**Claim 5 (Original).** The method of Claim 4 wherein the substrate is metallic.

**Claim 6 (Original).** The method of Claim 5 wherein the substrate is selected from the group consisting of Au, Ag, Pd, Pt, Cu, Al and Ni.